

# PATENT ABSTRACTS OF JAPAN

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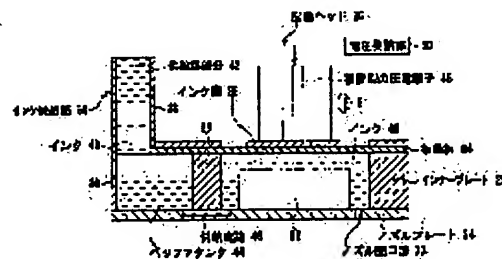
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## (54) METHOD AND APPARATUS FOR DETECTING FILLING OF RECORDING HEAD IN PRINTER

### (57)Abstract:

**PROBLEM TO BE SOLVED:** To eject an ink drop stably by obtaining the resonance point profile of a piezoelectric element for ejecting ink in an ink chamber from a nozzle opening and detecting the ink filling state of a recording head thereby eliminating the problem that a bubble is mixed or generated in an ink channel.

**SOLUTION:** Each ink chamber 38 coupled with an ink supply passage 36 corresponding to each nozzle opening 22 is provided with a piezoelectric element 48 and, under fully replenished state with ink 40, the supply passage 36 and the supply path part 42 thereof, a buffer tank 44, the chamber 38, and the opening 22 are filled with the ink 40. The ink filling detector for a recording head 20 comprises the piezoelectric element 48 connected with a voltage supply section 50, a voltmeter and a reference resistor. Ink filling state of the head 20 is detected based on the fact that the peak value of resonance point profile depends on the ink run out state, stable ejection state or unstable ejection state of the head 20.



## LEGAL STATUS

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